

date specified for that project so that the attorneys responsible for developing the regulations may have the benefit of the material submitted. The Treasury Department and the Internal Revenue Service will not delay the development of regulations to await the submission of drafts. Pre-submission communications with respect to any project will be limited to matters of procedure.

All material submitted will be available for public inspection and copying.

The following is a list of additional regulations projects for which drafts of regulations or portions of regulations are being solicited.

Code section and file number	Subject	Latest date for submission
Sec. 47, LR-315-81.	Amendment of investment credit recapture rules.	Mar. 30, 1984.
Sec. 103(b)(4), LR-190-78.	Exemption for industrial development bonds for water facilities.	Dec. 30, 1983.
Secs. 108, 1017, LR-91-81.	Discharge of indebtedness.	Nov. 30, 1983.
Sec. 338(h)(9).	Elective recognition of gain or loss by target corporation.	Nov. 30, 1983.
Secs. 465, 1502, LR-75-79.	Application of "at risk" rules to corporations filing consolidated returns.	Jan. 31, 1984.
Secs. 1401, 1057, LR236-76.	Excise tax on transfer of property to foreign persons to avoid the Federal income tax.	Mar. 30, 1984.
Secs. 4051-4053, LR-30-83.	Retailers tax on heavy duty trucks (especially gross vehicle weight).	Nov. 30, 1983.

Roscoe Egger,

Commissioner of Internal Revenue.

John E. Chapoton,

Assistant Secretary of the Treasury.

[FR Doc. 83-27671 Filed 10-11-83; 8:45 am]

BILLING CODE 4830-01-M

Sunshine Act Meetings

Federal Register

Vol. 48, No. 198

Wednesday, October 12, 1983

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

CONTENTS

	Items
African Development Foundation.....	1
Federal Deposit Insurance Corpora- tion	2, 3
Federal Reserve System.....	4
Legal Services Corporation	5
National Transportation Safety Board..	6, 7
Postal Service.....	8

1

AFRICAN DEVELOPMENT FOUNDATION

October 6, 1983.

TIME AND DATE: 9 a.m., October 19, 1983.**PLACE:** Conference Room of the Inter-American Foundation, 1515 Wilson Boulevard, Rosslyn, Virginia.**SUBJECT:** Organization and operation of the African Development Foundation (ADF). This is the initial meeting of the ADF Board of Directors.**STATUS:** Open.

PERSON TO CONTACT FOR MORE

INFORMATION: Douglas Robbins, ADF
Liaison Office, (703) 235-1882.
Douglas Robbins.

[S-1431-83 Filed 10-6-83; 4:22 pm]

BILLING CODE 6116-01-M

2

FEDERAL DEPOSIT INSURANCE CORPORATION

Agency Meeting

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that at 2:30 p.m. on Monday, October 17, 1983, the Federal Deposit Insurance Corporation's Board of Directors will meet in closed session, by vote of the Board of Directors, pursuant to sections 552b (c)(2), (c)(6), (c)(8), and (c)(9)(A)(ii) of Title 5, United States Code, to consider the following matters:

Summary Agenda: No substantive discussion of the following items is anticipated. These matters will be resolved with a single vote unless a member of the Board of Directors requests that an item be moved to the discussion agenda.

Recommendations with respect to the initiation, termination, or conduct of

administrative enforcement proceedings (cease-and-desist proceedings, termination-of-insurance proceedings, suspension or removal proceedings, or assessment of civil money penalties) against certain insured banks or officers, directors, employees, agents or other persons participating in the conduct of the affairs thereof:

Names of persons and names and locations of banks authorized to be exempt from disclosure pursuant to the provisions of subsections (c)(6), (c)(8), and (c)(9)(A)(ii) of the "Government in the Sunshine Act" (5 U.S.C. 552b (c)(6), (c)(8), and (c)(9)(A)(ii)).

Note.—Some matters falling within this category may be placed on the discussion agenda without further public notice if it becomes likely that substantive discussion of those matters will occur at the meeting.

Discussion Agenda:

Application for consent to merge and establish three branches:

First State Bank, Gulfport, Mississippi, an insured State nonmember bank, for consent to merge, under its charter and title, with The Metropolitan National Bank, Biloxi, Mississippi, and for consent to establish the three offices of The Metropolitan National Bank as branches of the resultant bank.

Application for consent to purchase certain assets and assume liabilities and establish two branches:

Citizens Savings Bank, Providence, Rhode Island, an insured mutual savings bank, and its subsidiary, Citizens Trust Company, Providence, Rhode Island, and insured State nonmember bank, for consent to purchase certain assets of and assume the liability to pay deposits made in the Westerly Branch of Old Stone Bank, Providence, Rhode Island, and for consent to establish that branch as a branch of Citizens Savings Bank and of Citizens Trust Company.

Personnel actions regarding appointments, promotions, administrative pay increases, reassignments, retirements, separations, removals, etc.:

Names of employees authorized to be exempt from disclosure pursuant to provisions of subsections (c)(2) and (c)(6) of the "Government in the Sunshine Act" (5 U.S.C. 552b (c)(2) and (c)(6)).

The meeting will be held in the Board Room on the sixth floor of the FDIC Building located at 550 17th Street NW., Washington, D.C.

Requests for further information concerning the meeting may be directed to Mr. Hoyle L. Robinson, Executive

Secretary of the Corporation, at (202) 389-4425.

Dated: October 7, 1983.

Federal Deposit Insurance Corporation.

Hoyle L. Robinson,
Executive Secretary.

[S-1434-83 Filed 10-7-83; 12:10 pm]

BILLING CODE 6714-01-M

3

FEDERAL DEPOSIT INSURANCE CORPORATION

Agency Meeting

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that the Federal Deposit Insurance Corporation's Board of Directors will meet in open session at 2 p.m. on Monday, October 17, 1983, to consider the following matters:

Summary Agenda: No substantive discussion of the following items is anticipated. These matters will be resolved with a single vote unless a member of the Board of Directors requests that an item be moved to the discussion agenda.

Disposition of minutes of previous meetings.

Application for consent to convert to a non-FDIC-insured institution:

Geneva Savings Bank, Geneva, New York.

Application for consent to merge and establish two branches:

First South Bank, Fort Valley, Georgia, an insured State nonmember bank, for consent to merge, under its charter and title, with Exchange Bank of Wrightsville, Wrightsville, Georgia, and First State Bank, Marshallville, Georgia, and for consent to establish the sole offices of Exchange Bank of Wrightsville and First State Bank as branches of the resultant bank.

Applications for consent to establish branches:

Barnett Bank of Palm Beach County, Riviera Beach, Florida, for consent to establish a branch in the Village Square Shopping Center, Woolbright Road and Military Trail, Boynton Beach, Florida.

Fidelity Bank of Southfield, Southfield, Michigan, for consent to establish a branch at 29777 Telegraph Road, Southfield, Michigan.

The Howard Savings Bank, Newark, New Jersey, for consent to establish a branch in the Troy-Hills Shopping Center at the intersection of Beverwyck Road and U.S.

Route 46, Parsippany-Troy Hills, New Jersey.

Applications for consent to establish remote service facilities:

Sangamon Bank and Trust, Springfield, Illinois, for consent to establish two remote service facilities at 2490 Wabash Avenue and 1987 Wabash Avenue, both locations in Springfield, Illinois.

Equibank, Pittsburgh, Pennsylvania, for consent to establish a remote service facility in the Amoco-Buy 'N Fly, 4108 William Penn Highway, Murrysville, Pennsylvania.

Applications for consent to establish branch-detached facilities:

The Academy Boulevard Bank, Colorado Springs, Colorado, for consent to establish a branch-detached facility at 3360 Citadel Drive North, Colorado Springs, Colorado.

The Central Colorado Bank, Colorado Springs, Colorado, for consent to establish a branch-detached facility at 331 N. Meade Street, Colorado Springs, Colorado.

Recommendations regarding the liquidation of a bank's assets acquired by the Corporation in its capacity as receiver, liquidator, or liquidating agent of those assets:

Memorandum and Resolution re: Franklin National Bank, New York, New York
Memorandum and Resolution re: Guaranty Bond State Bank, Redwater, Texas

Memorandum and resolution re: Proposed amendments to Parts 304 and 349 of the Corporation's rules and regulations, entitled "Forms, Instructions, and Reports" and "Reports on Indebtedness of Executive Officers and Principal Shareholders to Correspondent Banks," respectively, to implement amendments to titles VIII and IX of the Financial Institutions Regulatory and Interest Rate Control Act of 1978 contained in title IV of the Garn-St Germain Depository Institutions Act of 1982, which would: (1) Require FDIC-insured State-chartered nonmember institutions to disclose, upon request, the names of their executive officers and principal shareholders who (along with their related interests) have substantial borrowings from the bank or its correspondent banks; and (2) restate the existing statutory requirement that insiders report to the board of directors of their bank any indebtedness to the correspondent banks of that bank.

Reports of committees and officers:

Minutes of actions approved by the standing committees of the Corporation pursuant to authority delegated by the Board of Directors.

Reports of the Division of Bank Supervision with respect to applications, requests, or actions involving administrative

enforcement proceedings approved by the Director or an Associate Director of the Division of Bank Supervision and the various Regional Directors pursuant to authority delegated by the Board of Directors.

Discussion Agenda:

Memorandum and resolution re:

Advance notice of proposed rulemaking in connection with Parts 330 and 337 of the Corporation's rules and regulations, entitled "Clarification and Definition of Deposit Insurance Coverage" and "Unsafe and Unsound Banking Practices," respectively, to solicit comment on: (1) The extent to which brokered or brokered-type deposits are being placed with FDIC-insured banks without adequate analysis of the managerial practices and financial stability of the banks; (2) whether the Corporation, in order to encourage market and bank analysis in the placement of such deposits, should limit the insurance coverage of or restrict the receipt of, such funds by insured banks; and (3) whether the current "multiple" insurance coverage afforded to pension funds and other custodial-type deposits, under which each beneficial owner of such deposits is insured to \$100,000, should be limited.

The meeting will be held in the Board Room on the sixth floor of the FDIC Building located at 550 17th Street NW., Washington, D.C.

Requests for further information concerning the meeting may be directed to Mr. Hoyle L. Robinson, Executive Secretary of the Corporation, at (202) 389-4425.

Dated: October 7, 1983.

Federal Deposit Insurance Corporation.

Hoyle L. Robinson,
Executive Secretary.

[S-1435-83 Filed 10-7-83; 12:10 pm]

BILLING CODE 6714-01-M

4

FEDERAL RESERVE SYSTEM

(Board of Governors)

TIME AND DATE: 10 a.m., Monday, October 17, 1983.

PLACE: 20th Street and Constitution Avenue, NW., Washington, D.C. 20551.

STATUS: Closed.

MATTERS TO BE CONSIDERED:

1. Personnel actions (appointments, promotions, assignments, reassignments, and salary actions) involving individual Federal Reserve System employees.

2. Any items carried forward from a previously announced meeting.

CONTRACT PERSON FOR MORE INFORMATION: Mr. Joseph R. Coyne, Assistant to the Board (202) 462-3204.

Dated: October 7, 1983.

James McAfee,

Associate Secretary of the Board.

[S-1436-83 Filed 10-7-83; 3:33 pm]

BILLING CODE 6210-01-M

5

LEGAL SERVICES CORPORATION

Board of Directors Meeting

TIME AND DATE: 8 A.M. TO 5 P.M.,

THURSDAY, OCTOBER 13, 1983.

PLACE: Sheraton Grand Ballroom, Second floor, Sheraton Hotel, 255 South West Temple, Salt Lake City, Utah 84101.

STATUS OF MEETING: Open.

MATTER TO BE CONSIDERED:

1. Approval of Agenda.
2. Approval of Minutes.
3. Report from President.
4. Report from Office of Government Relations:

- a. Authorization;
 - b. GAO Investigation.
5. Report from Office of General Counsel:
 - a. Final Review of Proposed Regulations:
 - (1) Transfer of Funds (45 CFR 1627)—Proposed Regulation Published June 22, 1983.
 - (2) Denial of Refunding (45 CFR 1606 and 1625)—Proposed Regulation Published August 15, 1983.
 - (3) Eligibility (45 CFR 1611)—Proposed Regulation Published August 29, 1983.
 - b. Discussion of Regulations to be published as Proposed Regulations:
 - (1) Attorney Fees (45 CFR 1609).
 - (2) Priority Setting (45 CFR 1620).
 - (3) Denial of Refunding (45 CFR 1606).
 6. Report from Office of Field Services:
 - a. Announcement of Instructions/

- Guidelines:
 - (1) Private Attorney Involvement;
 - (2) Fund Balance.
- b. Discussion of Reginald Heber Smith Community Fellowship Program.
7. Report from Vice President of Finance:
 - a. 1983 Third Quarter Budget Review;
 - b. Fund Transfer for Support Centers and National Clients Council;
 - c. 1984 Budget;
 - d. 1985 Mark.
8. Needs Study Update.

CONTACT PERSON FOR MORE INFORMATION: LeaAnne Bernstein, Office of the President, (202) 272-4040.

Dated: October 6, 1983.

Donald P. Bogard,
President.

[S-1432-83 Filed 10-6-83; 4:48 pm]

BILLING CODE 6820-35-M

6

NATIONAL TRANSPORTATION SAFETY BOARD

(NM-83-23)

"FEDERAL REGISTER" CITATION OF PREVIOUS ANNOUNCEMENT: 48 FR 45492, October 5, 1983.

PREVIOUSLY ANNOUNCED TIME AND DATE OF MEETING: 9 a.m., Thursday, October 6, 1983.

CHANGE IN MEETING: A majority of the Board determined by recorded vote that the business of the Board required revising the agenda of this meeting and that no earlier announcement was possible. The following open item was deleted from the agenda:

1. *Recommendation to the Federal Aviation Administration regarding in-flight fires on transport category aircraft.* The following open item was added to the agenda:

1. *Recommendation to the States to Implement Sobriety Checkpoints and Recommendations to the International Association of Chiefs of Police and the National Highway Traffic Safety Administration to assist the States.*

CONTACT PERSON FOR MORE

INFORMATION: Sharon Flemming (202) 382-6525.

October 6, 1983.

[S-1433-83 Filed 10-7-83; 9:55 am]

BILLING CODE 4910-58-M

7

NATIONAL TRANSPORTATION SAFETY BOARD

(NM-83-24)

TIME AND DATE: 9 a.m., Tuesday, October 18, 1983.

PLACE: NTSB Board Room, eight floor, 800 Independence Ave. SW., Washington, D.C. 20594.

STATUS: Open.

MATTERS TO BE CONSIDERED:

1. *Oral Argument: Sotillie v. Administrator, Dkt. SE-4910.*

2. *Aircraft Accident Report: United Airlines Flight 2885, McDonnell Douglas DC-8-54F, N80530, Detroit, Michigan, January 11, 1983.*

3. *Aircraft Accident Report: Republic Airlines, Inc., Convair 580, N8444H, Brainerd, Minnesota, January 9, 1983.*

4. *Reconsideration of Probable Cause: Aircraft Accident Report—Eastern Air Lines, Inc., Boeing 727-225, N8838E, Raleigh, North Carolina, November 12, 1975.*

5. *Highway Accident Report: Multiple Vehicle Collisions and Fires Under Limited Visibility Conditions, Interstate Route 75, Ocala, Florida, February 28, 1983.*

6. *Recommendations to the International Society of Fire Service Instructors, the International Association of Fire Chiefs, the International Association of Chiefs of Police, the Research and Special Programs Administration, and Matlack, Inc., concerning the release of di-vinyl benzene from an overturned truck on October 13, 1982, at Odessa, Delaware.*

CONTACT PERSONS FOR MORE

INFORMATION: Sharon Flemming (202) 382-6525.

October 7, 1983.

[S-1437-83 Filed 10-7-83; 3:10 pm]

BILLING CODE 4910-58-M

8

POSTAL SERVICE

(Board of Governors)

Vote to Close Meeting

At its meetings on October 3-4, 1983, the Board of Governors of the United States Postal Service unanimously voted to close to public observation its meeting, scheduled for October 31, 1983, in New York, New York. The meeting will involve: (1) Consideration of the August 26, 1983, Recommended Decision of the Postal Rate Commission on Third-class bulk rates for nonprofit mail in Docket No. R-80-1; and (2) a discussion of strategic planning in connection with possible future rate adjustments.

The meeting is expected to be attended by the following persons: Governors Hardesty, Babcock, Camp, McKean, Ryan, Sullivan and Voss; Postmaster General Bolger; Deputy Postmaster General Finch; Secretary of

the Board Harris; General Counsel Cox; Senior Assistant Postmaster General Coughlin; and Counsel to the Governors Califano.

The Board is of the opinion that public access to the discussions would be likely to disclose information that will become involved in future rate or classification litigation.

Accordingly, the Board of Governors has determined that, pursuant to section 552b(c) (3) of title 5, United States Code, and section 7.3(c) of title 39, Code of Federal Regulations, the meeting is exempt from the open meeting requirement of the Government in the Sunshine Act (5 U.S.C. 552b(b)), because it is likely to disclose information in connection with proceedings under chapter 36 of title 39 (having to do with postal ratemaking, mail classification and changes in postal services), which is specifically exempted from disclosure by section 410 (c) (4) of title 39, United States Code. The Board has determined further, that pursuant to section 552b(c) (10) of title 5, United States Code, and section 7.3(j) of title 39, Code of Federal Regulations, the discussions are exempt, because they are likely to specifically concern the participation of the Postal Service in a civil action or proceeding or the litigation of a particular case involving a determination on the record after opportunity for a hearing. The Board further determined that the public interest does not require that the Board's discussion of these matters be open to the public.

In accordance with section 552b(f) (1) of title 5, United States Code, and section 7.6(a) of title 39, Code of Federal Regulations, the General Counsel of the United States Postal Service has certified that in his opinion the meeting to be closed may properly be closed to public observation, pursuant to section 552b(c) (3) and (10) of title 5 and section 410 (c) (4) of title 39, United States Code, and section 7.3 (c) and (j) of title 39, Code of Federal Regulations.

David F. Harris,
Secretary.

S-1436-83 Filed 10-7-83; 2:34pm

BILLING CODE 7710-12-M

[The page contains extremely faint, illegible text, likely bleed-through from the reverse side. The text is organized into several paragraphs and possibly a list or table, but the characters are too light to transcribe accurately.]

Registered Federal Patent

Wednesday,
October 12, 1983

Part II

Environmental Protection Agency

Standards of Performance for New
Stationary Sources; Appendix A—
Reference Methods; Alternative Methods
for Nitrogen Oxide Emissions

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[AD-FRL 2409-7]

Standards of Performance for New Stationary Sources; Appendix A—Reference Methods; Alternative Methods for Nitrogen Oxide Emissions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: The purpose of this action is to propose as alternative methods to Method 7, "Method 7C, Determination of Nitrogen Oxide Emissions from Stationary Sources—Alkaline Permanganate/Colorimetric Procedure," and "Method 7D, Determination of Nitrogen Oxide Emissions from Stationary Sources—Alkaline Permanganate/Ion Chromatography Procedure," which are to be added to Appendix A of 40 CFR Part 60. The methods provide integrated samples rather than grab samples.

These methods would, at present, apply to fossil-fuel fired steam generators (Subpart D), electric utility steam generating units (Subpart Da), and nitric acid plants (Subpart G).

DATES: *Comments.* Comments must be received on or before December 15, 1983.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by October 25, 1983, a public hearing will be held on November 15, 1983 beginning at 10:00 a.m. Persons interested in attending the hearing should call Mrs. Naomi Durkee at (919) 541-5578 to verify that a hearing will occur.

Request to Speak at Hearing. persons wishing to present oral testimony must contact EPA by October 25, 1983.

ADDRESSES: *Comments.* Comments should be submitted (in duplicate if possible) to: Central Docket Section (LE-131), Attention: Docket Number A-82-42, U.S. Environmental Protection Agency, 401 M Street S.W., Washington, DC 20460.

Public Hearing. if anyone contacts EPA requesting to speak at a public hearing, it will be held at EPA's Environmental Research Auditorium, Research Triangle Park, North Carolina. Persons interested in attending the hearing should call Mrs. Naomi Durkee at (919) 541-5578 to verify that a hearing will occur. Persons wishing to present oral testimony should notify Mrs. Naomi Durkee, Standards Development Branch (MD-13), U.S. Environmental Protection

Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5578.

Docket. Docket No. A-82-42, containing supporting information relevant to this rulemaking, is available for public inspection and copying between 8:00 a.m. and 4:00 p.m., Monday through Friday, at EPA's Central Docket Section, West Tower Lobby, Gallery 1, Waterside Mall, 401 M Street, S.W., Washington, D.C. 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Mr. Roger Shigehara, Emission Measurement Branch (MD-19), Emission Standards and Engineering Division, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-2237.

SUPPLEMENTARY INFORMATION: Methods 7C and 7D are being proposed as alternative methods to Method 7. Both methods utilize impingers to provide time integrated samples instead of evacuated flask grab samples. The alternative methods use colorimetric or ion chromatographic analysis.

Miscellaneous

This rulemaking would not impose any additional emission measurement requirements on any facilities. Rather, the rulemaking would simply add alternative test methods associated with emission measurement requirements that would apply irrespective of this rulemaking.

Under Executive Order 12291, EPA just judge whether a regulation is "major" and, therefore subject to the requirement of a regulatory impact analysis. This regulation is not major because it will not have an annual effect on the economy of \$100 million or more; it will not result in a major increase in costs or prices; and there will be no significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of U.S.-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that the attached rule will not have any economic impact on small entities since the rulemaking simply adds alternative test methods.

List of Subjects in 40 CFR Part 60

Air pollution control. Aluminum, Ammonium sulfate plants, Asphalt, Cement industry, Coal Copper, Electric power plants, Glass and glass products, Grains, Intergovernmental relations, Iron, Lead, Metals, Metallic Minerals, Motor vehicles, Nitric acid plants, Paper and paper products industry, Petroleum,

Phosphate, Sewage disposal, Steel Sulfuric acid plants, Waste treatment and disposal, Zinc, Tires, Incorporation by Reference, Can surface coating, Sulfuric acid plants, Industrial organic chemicals.

Dated: September 27, 1983.

William D. Ruckelshaus,
Administrator.

PART 60—[AMENDED]

It is proposed that 40 CFR Part 60 be amended as follows:

1. The authority citation for this amendment is as follows:

Authority: Sections 111, 114, and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7411, 7414, and 7601(a)).

§§ 60.45, 60.46, 60.47a, 60.73 and 60.74 [Amended]

2. By amending §§ 60.45, 60.46, 60.47a, 60.73, and 60.74 by removing the number "7" and inserting, in its place, "7, 7C, or 7D" in the following places:

- a. 40 CFR 60.45(c)(1);
- b. 40 CFR 60.46(a)(2), (a)(5), (c), (e), and (f)(3)(i);
- c. 40 CFR 60.47a(h)(1), (h)(3), (h)(4), and (h)(5)(i)(1);
- d. 40 CFR 60.73(a);
- e. 40 CFR 60.74(a)(1) and (b).

3. By amending Appendix A by adding Methods 7C and 7D as follows:

Appendix A—Reference Methods

Method 7C—Determination of Nitrogen Oxide Emissions From Statutory Sources

Alkaline-Permanganate/Colorimetric Method

1. *Applicability, Principle, Interferences, Precision, Bias, and Stability.*

1.1 *Applicability.* The method is applicable to the determination of NO_x emissions from fossil-fuel fired steam generators, electric utility plants, nitric acid plants, or other sources as specified in the regulations. The lower detectable limit is 3 mg NO_x, as NO₂, (7ppm NO_x) when sampling at 500 cc/min for 1 hour. No upper limit has been established; however, when using the recommended sampling conditions, the method has been found to collect NO_x emissions quantitatively up to 1782 mg NO_x/m³, as NO₂, (932 ppm NO_x).

1.2 *Principle.* An integrated gas sample is extracted from the stack and collected in alkaline-postassium permanagante solution; NO_x(NO+NO₂) emissions are oxidized to NO₂— and NO₂— is reduced to NO₂— with cadmium

and the NO_2 is analyzed colorimetrically.

1.3 Interferences. Possible interferences are SO_2 and NH_3 . High concentrations of SO_2 could interfere because SO_2 consumes MnO_4^- (as does NO_2) and, therefore, could reduce the NO_2 collection efficiency. However, when sampling emissions from a coal (2.1 percent S) fired electric utility plant with no control of SO_2 emissions, collection efficiency was not reduced. In fact, calculations show that sampling 3000 ppm SO_2 will reduce the MnO_4^- concentration by only 5 percent if all the SO_2 is consumed in the first impinger.

NH_3 is oxidized to NO_2 by absorbing solution. At 100 ppm NH_3 in the gas stream, an interference of 6 ppm NO_x (11

mg NO_2/m^3) was observed when the sample was analyzed 10 days after collection. Therefore, the method may not be applicable to plants using NH_3 injection to control NO_x emissions.

1.4 Precision and Bias. The method does not exhibit an bias relative to Method 7. The within-laboratory relative standard deviation for a single measurement is 2.8 and 2.9 percent at 201 and 268 ppm NO_x , respectively.

1.5 Stability. Collected samples are stable for at least 4 weeks.

2. Apparatus

2.1 Sampling and Sample Recovery. The sampling train is shown in Figure 7C-1, and component parts are discussed below.

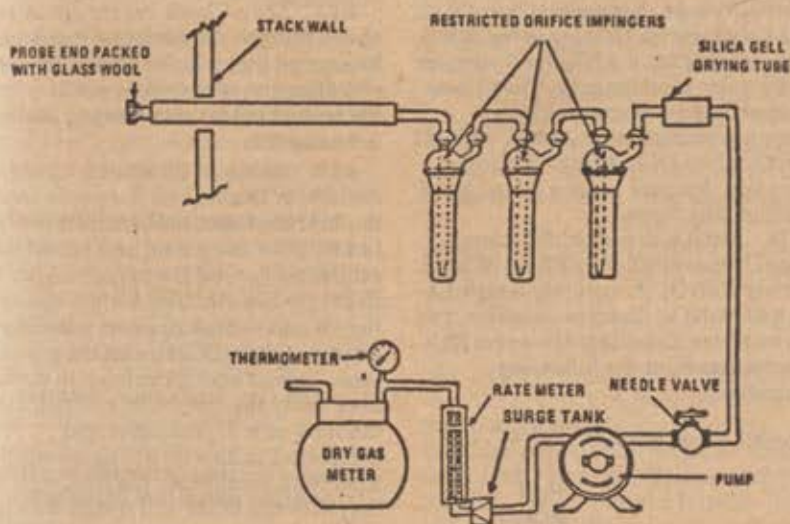


Figure 7C-1. NO_x sampling train.

2.1.1 Probe. Borosilicate glass tubing, sufficiently heated to prevent water condensation and equipped with an in-stack or out-stack filter to remove particulate matter (a plug of glass wool is satisfactory for this purpose). Stainless steel or Teflon tubing may also be used for the probe. (Note: Mention of trade names or specific products does not constitute endorsement by the U.S. Environmental Protection Agency.)

2.1.2 Impingers. Three restricted-orifice glass impingers, having the

specifications given in Figure 7C-2, are required for each sampling train. The impingers must be connected in series with leak-free glass connectors. Stopcock grease may be used, if necessary, to prevent leakage. (The impingers can be fabricated by a glass blower until they become available commercially.)

2.1.3 Glass Wool, Stopcock Grease, Drying Tube, Valve, Pump, Barometer, and Vacuum Gauge and Rotameter. Same as in Method 8, Sections 2.1.3,

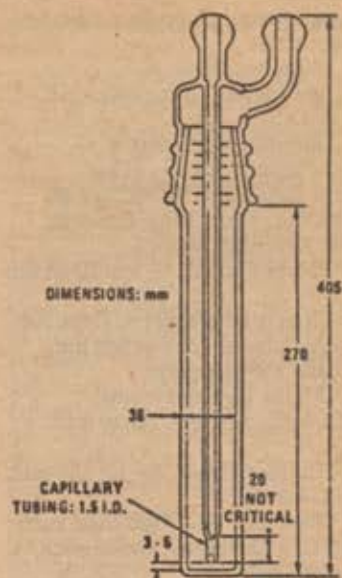


Figure 7C-2. Restricted orifice impinger.

2.1.4, 2.1.6, 2.1.7, 2.1.8, 2.1.11, and 2.1.12, respectively.

2.1.4 Rate Meter. Rotameter, or equivalent, accurate within 2 percent at the flow rate of 500 cc/min. For rotameters, a range of 0 to 1 liter/min is recommended.

2.1.5 Volume Meter. Dry gas meter capable of measuring the sample volume, under the sampling conditions of 500 cc/min for 60 minutes with an accuracy of ± 2 percent.

2.1.6 Filter. A filter to remove NO_2 from ambient air can be prepared by adding 20 g of a 5 angstrom molecular sieve to a cylindrical tube, e.g., a polyethylene drying tube.

2.1.7 Polyethylene Bottles. 1-liter, for sample recovery.

2.1.8 Funnel and Stirring Rods. For sample recovery.

2.2 Sample Preparation and Analysis.

2.2.1 Hot Plate. Stirring type with 50-by 10-mm Teflon-coated stirring bars.

2.2.2 Beakers. 400-, 600-, and 1000-ml capacities.

2.2.3 Filtering Flask. 500-ml capacity with sidearm.

2.2.4 Buchner Funnel. 75-mm ID.

2.2.5 Filter Paper. Whatman GF/C, 7.0-cm diameter.

2.2.6 Stirring Rods.

2.2.7 Volumetric Flasks. 100-, 200-, or 250-, 500-, and 1000-ml capacity.

2.2.8 Watch Glasses. To cover 600- and 1000-ml beakers

2.2.9 Graduated Cylinders. 50- and 250-ml capacities.

2.2.10 Pipettes. Class A.

2.2.11 pH Meter. To measure pH from 0.5 to 12.0.

2.2.12 Burette. 50 ml with a micrometer type stopcock. (The stopcock is Catalogue No. 8225-1-05, Ace Glass, Inc., Post Office Box 996, Louisville, Kentucky 50201.)

2.2.13 Glass Funnel. 75-mm ID at the top.

2.2.14 Spectrophotometer. Capable of measuring absorbance at 540 nm. One-cm cells are adequate.

2.2.15 Metal Thermometers. Bimetallic thermometers, range 0 to 150° C.

2.2.16 Culture Tubes. 20- by 150-mm. Kimax No. 45048.

2.2.17 Parafilm "M." Obtained from American Can Company, Greenwich, Connecticut 06830.

3. Reagents

Unless otherwise indicated, all reagents should conform to the specifications established by the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available; otherwise, use the best available grade.

3.1. Sampling.

3.1.1 Water. Deionized distilled to conform to ASTM specification D 1193-74, Type 3 (incorporated by reference—see § 60.17).

3.1.2 Potassium Permanganate, 4.0% (w/w). Sodium Hydroxide, 2.0% (w/w). Dissolve 40.0 g of KMnO_4 and 20.0 g of NaOH in 940 ml of water.

3.2. Sample Preparation and Analysis.

3.2.1 Sulfuric Acid. Concentrated H_2SO_4 .

3.2.2 Oxalic Acid. $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$.

3.2.3 Ethylenediamine Tetraacetic Acid, Disodium Salt (EDTA).

3.2.4 Sodium Hydroxide, 0.5 N. Dissolve 20 g of NaOH in water and dilute to 1 liter.

3.2.5 Sodium Hydroxide, 10 N. Dissolve 40 g of NaOH in water and dilute to 100 ml.

3.2.6 EDTA Solution, 6.5 Percent. Dissolve 6.5 g of EDTA in water, and dilute to 100 ml. Solution is best accomplished by using a magnetic stirrer.

3.2.7 Column Rinse Solution. Add 20 ml of 6.5 percent EDTA solution to 980 ml of water, and adjust the pH to 12.0 with 0.5 N NaOH.

3.2.8 Hydrochloric Acid (HCl), 2 N. Add 86 ml of concentrated HCl to 500 ml of water, and mix. Store in a glass stoppered bottle.

3.2.9 Sulfanilamide. Melting point, 165 to 167°C.

3.2.10 N-(1-Naphthyl)-Ethylenediamine Dihydrochloride

(NEDA). An aqueous solution would should have one absorption peak at 320 nm over the range of 260 to 400 nm. NEDA, showing more than one absorption peak over this range, is impure and should not be used.

3.2.11 Sodium Nitrite. Assay of 97 percent NaNO_2 or greater.

3.2.12 Phosphoric Acid. Concentrated, 85 percent.

3.2.13 Sulfanilamide Solution. Add 20 g of sulfanilamide to 700 ml of water. Add, with mixing, 50 ml concentrated phosphoric acid, and dilute to 1000 ml. This solution is stable for at least 1 month, if refrigerated.

3.2.14 NEDA Solution. Dissolve 0.5 g of NEDA in 500 ml of water. This solution is stable for at least 1 month if protected from light and refrigerated.

3.2.15 Cadmium. This is obtained from Matheson Coleman and Bell, 2909 Highland Avenue, Norwood, Ohio 45212, as EM Laboratories Catalogue No. 2001. Prepare by rinsing in 2 NCl for 5 minutes until the color is silver-grey. Then rinse the cadmium with water until the rinsings are neutral when tested with pH paper. Caution: H_2 is liberated during preparation. Prepare in an exhaust hood away from any flame.

3.2.16 NaNO_2 Standard Solution. Nominal Concentration, 1000 $\mu\text{g NO}_2$ -ml. Desiccate NaNO_2 . Accurately weigh 1.4 to 1.6 g of NaNO_2 , dissolve in water, and dilute to 1 liter. Calculate the exact NO_2 -concentration from the following relationship:

$$\mu\text{g NO}_2\text{-ml} = \text{g of NaNO}_2 \times \frac{\text{purity, \%}}{100} \times 10^3 \times \frac{46.01}{69.01}$$

This solution is stable for at least 6 months under laboratory conditions.

3.2.17 KNO_3 Standard Solution. Nominal Concentration, 6,200 $\mu\text{g NO}_3$ -ml. Dry KNO_3 at 110°C for 2 hours, and cool in a desiccator. Accurately weigh 9 to 10 g of KNO_3 , dissolve in water, and dilute to 1 liter. Calculate the exact NO_3 -concentration from the following relationship:

$$\mu\text{g NO}_3\text{-ml} = \text{g of KNO}_3 \times 10^3 \times \frac{62.01}{101.10}$$

This solution is stable for 2 months without preservative under laboratory conditions.

3.2.18 Spiking Solution. Pipette 7 ml of the KNO_3 standard into a 100-ml volumetric flask, and dilute to volume.

3.2.19 Blank Solution. Dissolve 2.4 g of KMnO_4 and 1.2 g of NaOH in water, and dilute to 100 ml.

3.2.20 Quality Assurance Audit Samples. Nitrate samples in glass vials

prepared by the Environmental Monitoring Systems Laboratory of the Environmental Protection Agency (EPA) at the Research Triangle Park, North Carolina. Each set will consist of two vials of samples with unknown concentrations. Only when making compliance determinations, obtain the audit samples from the Quality Assurance Management Office of the EPA regional office.

4. Procedure

4.1 Sampling.

4.1.1 Preparation of Collection Train. Add 200 ml of KMnO_4 /NaOH solution (3.1.2.) to each of three impinger, and assemble the train as shown in Figure 7C-1. Adjust probe heater to a temperature sufficient to prevent water condensation.

4.1.2 Leak-Check Procedure. A leak-check prior to the sampling run should be carried out; a leak-check after the sampling run is mandatory. Carry out the leak-check(s) according to Method 6, Section 4.1.2.

4.1.3 Check of Rotameter Calibration Accuracy. Disconnect the probe from the first impinger, and connect the filter (2.1.6). Start the pump, and adjust the rotameter to read 500 cc/min. After the flow rate has stabilized, start measuring the volume sampled, as recorded by the dry gas meter (DGM), and the sampling time. Collect enough volume to measure accurately the flow rate, and calculate the flow rate. If rotameter and calculated values do not agree within ± 5 percent, recalibrate the rotameter in line with the DGM and a stop watch.

4.1.4 Sample Collection. Record the initial DGM reading and barometric pressure. Determine the sampling point or points according to the appropriate regulations, e.g., Section 60.46(c) of 40 CFR Part 60. Position the tip of the probe at the sampling point, connect the probe to the first impinger, and start the pump. Adjust the sample flow to a value of 500 cc/min or lower. Caution: Higher flow rates will produce low results. Once adjusted, maintain a constant flow rate during the entire sampling run. Sample for 60 minutes. (Note: When the SO_2 concentration is greater than 1200 ppm, the sampling time may have to be reduced to 30 minutes to eliminate plugging of the impinger orifice with MnO_2 .) Record the DGM temperature at least every 5 minutes. At the conclusion of each run, turn off the pump, remove probe from the stack, and record the final readings. Conduct a leak-check as in Section 4.1.2. If a leak is found, void the test run, or use procedures acceptable to the Administrator to

adjust the sample volume for the leakage.

4.1.5 CO₂ Measurement. During sampling, measure the CO₂ content of the stack gas near the sampling point using Method 3. The single-point grab sampling procedure is adequate. This measurement should be made at least three times: near the start, midway, and before the end of a run. Compute the average CO₂ concentration.

4.2 Sample Recovery. Disconnect the impingers. Pour the contents of the impingers into a 1-liter polyethylene bottle using a funnel and a stirring rod (or other means) to prevent spillage. Complete the quantitative transfer by rinsing the impingers and connecting tubes with water until the rinsings are clear to light pink, and add the rinsings to the bottle. Mix the sample, and mark the solution level. Seal and identify the sample container.

4.3 Sample Preparation for Analysis. Prepare a cadmium reduction column as follows: Place a plug of glass wool in the bottom of the burette (2.2.12). Cut off the burette at a height of 43 cm from the top of the plug, and have a glass blower attach a funnel (2.2.13) to the top of the burette such that the diameter of the burette remains essentially unchanged. Fill the burette with water. Add freshly prepared cadmium slowly with tapping until no further settling occurs. The height of the cadmium column should be 39 cm. When not in use, store the column under rinse solution (3.27). (Note: The column should *not* contain any bands of cadmium fines. This may occur if regenerated cadmium is used and will greatly reduce the column lifetime.)

Note the level of liquid in the sample container, and determine whether any sample was lost during shipment. If a noticeable amount of leakage has occurred, the volume lost can be determined from the difference between initial and final solution levels, and this value can then be used to correct the analytical result. Quantitatively transfer the contents of the three impingers to a 1-liter volumetric flask, and dilute to volume.

Take a 100-ml aliquot of the sample and blank solutions, and transfer to 400-ml beakers containing magnetic stirring bars. Add concentrated H₂SO₄ with stirring until a pH of 0.7 is obtained. Allow the solutions to stand for 15 minutes. Cover the beakers with watch glasses, and bring the temperature of the solutions to 50°C. Keep the temperature below 60°C. Dissolve 4.8 g of oxalic acid in a minimum volume of water, approximately 50 ml, at room temperature. Do not heat the solution. Add this solution slowly, in increments,

until the KMnO₄ solution becomes colorless. If the color is not completely removed, prepare some more of the above oxalic acid solution and add until a colorless solution is obtained. Add an excess of oxalic acid by dissolving 1.6 g of oxalic acid in 50-ml of water, and add 6-ml of this solution to the colored solution. If a suspended precipitate is present, add concentrated H₂SO₄ until a clear solution is obtained.

Allow the samples to cool to near room temperature, being sure that the samples are still clear. Adjust the pH to 12.0 with 10 N NaOH. Quantitatively transfer the mixture to a Buchner funnel containing CF/C filter paper, and filter the precipitate. The spout of the Buchner funnel should be equipped with a 13-mm ID by 90-mm long piece of Teflon tubing. (This modification minimizes the possibility of aspirating sample solution during filtration.) Filter the mixture into a 500-ml filtering flask. Wash the solid material four times with water. When filtration is complete, wash the Teflon tubing, quantitatively transfer the filtrate to a 500-ml volumetric flask, and dilute to volume. The samples are now ready for cadmium reduction. Pipette a 50-ml aliquot of the sample into a 150-ml beaker, and add a magnetic stirring bar. Pipette in 1.0-ml of 6.5 percent EDTA solution, and mix.

Determine the correct stopcock setting to establish a flow rate of 7 to 9 ml/min of column rinse solution through the cadmium reduction column. Use a 50-ml graduated cylinder to collect and measure the solution volume. After the last of the rinse solution has passed from the funnel into the burette, but before air entrapment can occur, start adding the sample and collect it in a 250-ml graduated cylinder. Complete the quantitative transfer of the sample to the column as the sample passes through the column. After the last of the sample has passed from the funnel into the burette, start adding 60-ml of column rinse solution, and collect the rinse solution until the solution just disappears from the funnel. Quantitatively transfer the sample to a 200-ml volumetric flask (250-ml may be required), and dilute to volume. The samples are now ready for NO₂-analysis. Note: Both the sample and blank (unexposed KMnO₄/NaOH solution) should go through this procedure. Additionally, two spiked samples should be run with every group of samples passed through the column. To do this, prepare two additional 50-ml aliquots of the sample suspected to have the highest NO₂-concentration, and add 1-ml of the spiking solution to this aliquot. If the spike recovery or column efficiency (see 6.2.1) is below 95 percent,

prepare a new column, and repeat the cadmium reduction.

4.4 Sample Analysis. Pipette 10-ml of sample into a culture tube. (Note: Some test tubes give a high blank NO₂-value but culture tubes do not.) Pipette in 10-ml of sulfanilamide solution and 1.4-ml of NEDA solution. Cover the culture tube with parafilm, and mix the solution. Prepare a blank in the same manner using the sample from treatment of the unexposed KMnO₄/NaOH solution (3.1.2). Also, prepare a calibration standard to check the slope of the calibration curve. After a 10-minute color development interval, measure the absorbance at 540-nm against water. Read $\mu\text{g NO}_2\text{-}/\text{ml}$ from the calibration curve. If the absorbance is greater than that of the highest calibration standard, pipette less than 10-ml of sample and enough water to make the total sample volume 10-ml, and repeat the analysis. Determine the NO₂ concentration using the calibration curve obtained in Section 5.4.

4.5 Audit Analysis. With each set or sets of compliance samples, analyze two unknown audit samples in the same manner as the samples to evaluate the technique of the analyst and the standards preparation. The same person, reagents, and analytical system must be used both for each set or sets of compliance samples and the EPA audit samples. If this condition is met, for compliance samples that are analyzed frequently, it is only necessary to analyze the audit samples once per quarter.

Calculate the concentration in mg/m³ using the specified gas volume in the audit instructions. (Note: Acceptability of the results of the audit samples may be obtained immediately by reporting the audit and compliance results by telephone.) Include the results of both audit samples with the results of the compliance determination samples in appropriate reports to the EPA regional office or the appropriate enforcement agency.

5. Calibration

5.1 Dry Gas Meter (DGM).

5.1.1 Initial Calibration. Same as in Method 6, Section 5.1.1. For detailed instructions on carrying out this calibration, it is suggested that Section 3.5.2 of Citation 4 be consulted.

5.1.2 Post-Test Calibration Check. Same as in Method 6, Section 5.1.2.

5.2 Rotameter. During the initial DGM calibration, record the rotameter ball position, the wet test meter volume, and run time. When the DGM calibration is complete, complete the

rotameter calibration by adjusting the flow rate to cover the range of 0 to 1 liter/min. Correct all volumes to STP. It is suggested that Section 3.5.2 of Citation 4 be consulted for examples of these volume calculations. Calculate the corrected flow rates, and plot flow rate versus ball position.

5.3 Thermometers for DGM and Barometer. Same as in Method 6, Sections 5.2 and 5.4, respectively.

5.4 calibration Curve for Spectrophotometer. Dilute 5.0 ml of the nominally 1000 $\mu\text{g NO}_2$ -/ml solution to 200ml with water. This solution nominally contains 25 $\mu\text{g NO}_2$ -/m Use this solution to prepare calibration standards to cover the range of 0.25 to 3.00 $\mu\text{g NO}_2$ -/ml. Use pipettes for all additions.

$$V_{m(\text{std})} = V_m XY \frac{T_{\text{std}}}{T_m} \frac{P_{\text{bar}}}{P_{\text{std}}} = K_1 XY \frac{V_m P_{\text{bar}}}{T_m} \quad (\text{Eq. 7C-1})$$

Where:

V_m = Dry gas volume measured by the dry gas meter, corrected to standard conditions, dscm.

V_m = Dry gas volume as measured by the dry gas meter, dcm.

Y = Dry gas meter calibration factor.

X = Correction factor for CO_2 collection.

$$= \frac{100 + \% \text{CO}_2(v/v)}{100}$$

P_{bar} = Barometric pressure, mm Hg.

P_{std} = Standard absolute pressure, 760 mm Hg.

T_m = Average dry gas meter absolute temperature, °K.

T_{std} = Standard absolute temperature, 293°K.

$K_1 = 0.3858^\circ\text{K/mm Hg}$.

6.2 Total $\mu\text{g NO}_2$ Per Sample.

6.2.1 Efficiency of Cadmium Reduction Column. Calculate this value as follows:

$$E = \frac{(x - y) 200}{s \times 1.0 \times \frac{46.01}{62.01}} = \frac{269.6 (x - y)}{s} \quad (\text{Eq. 7C-2})$$

Where:

E = Column efficiency, unitless.

x = Analysis of spiked sample, $\mu\text{g NO}_2$ -/ml.

y = Analysis of unspiked sample, $\mu\text{g NO}_2$ -/ml.

Run standards and water blank as instructed in Section 4.4. Plot the net absorbance vs $\mu\text{g NO}_2$ -/ml. Draw a smooth curve through the points. The curve should be linear up to an absorbance of approximately 1.2 with a slope of approximately 0.53 absorbance units/ $\mu\text{g NO}_2$ -/ml. The curve should pass through the origin. The curve is slightly nonlinear from an absorbance of 1.2 to 1.6.

6. Calculations

Carry out calculations, retaining at least one extra decimal figure beyond that of the acquired data. Round off figures after final calculation.

6.1 Sample volume, dry basis, corrected to standard conditions.

200 = Final volume of sample and blank after passing through the column, ml.

s = Concentration of spiking solution, $\mu\text{g NO}_2$ -/ml.

1.0 = Volume of spiking solution added, ml.

46.01 = $\mu\text{g NO}_2$ -/ μ mole.

62.01 = $\mu\text{g NO}_2$ -/ μ mole.

6.2.2 Total $\mu\text{g NO}_2$.

$$m = \frac{(S - B)}{E} \times 200 \times \frac{500}{50} \times \frac{1000}{100}$$

$$= \frac{(2 \times 10^4) (S - B)}{E} \quad (\text{Eq. 7C-3})$$

Where:

m = Mass of NO_x , as NO_2 , in sample, μg .

S = Analysis of sample, $\mu\text{g NO}_2$ -/ml.

B = Analysis of blank, $\mu\text{g NO}_2$ -/ml.

500 = Total volume of prepared sample, ml.

50 = Aliquot of prepared sample processed through cadmium column, ml.

100 = Aliquot of $\text{KMnO}_4/\text{NaOH}$ solution, ml.

1000 = Total volume of $\text{KMnO}_4/\text{NaOH}$ solution, ml.

6.3 Sample Concentration.

$$C = K_2 \frac{m}{V_{m(\text{std})}}$$

Where:

C = Concentration of NO_x as NO_2 , dry basis, mg/dscm .

$K_2 = 10^{-3} \text{ mg/g}$.

6.4 Conversion Factors.

1.0 ppm $\text{NO} = 1.247 \text{ mg NO/m}^3$ at STP.

1.0 ppm $\text{NO}_2 = 1.912 \text{ mg NO}_2/\text{m}^3$ at STP.

1 $\text{ft}^3 = 2.832 \times 10^{-2} \text{ m}^3$.

7. Quality Control

Quality control procedures are specified in Sections 4.1.3 (flow rate accuracy); 4.3 (cadmium column efficiency); 4.4 (calibration curve accuracy); and 4.5 (audit analysis accuracy).

8. Bibliography

1. Margeson, J.H., W.J. Mitchell, J.C. Suggs, and M.R. Midgett. Integrated Sampling and Analysis Methods for Determining NO_x Emissions at Electric Utility Plants. U.S. Environmental Protection Agency, Research Triangle Park, N.C. Journal of the Air Pollution Control Association. 32:1210-1215, 1982.

2. Memorandum and attachment from J.H. Margeson, Source Branch, Quality Assurance Division, Environmental Monitoring Systems Laboratory, to The Record, EPA. March 30, 1983. NH_3 Interference in Methods 7C and 7D.

3. Margeson, J.H., J.C. Suggs, and M.R. Midgett. Reduction of Nitrate to Nitrite with Cadmium. Anal. Chem. 52:1955-57, 1980.

4. Quality Assurance Handbook for Air Pollution Measurement Systems. Volume III—Stationary Source Specific Methods. August 1977. U.S. Environmental Protection Agency, Research Triangle Park, N.C. Publication No. EPA-600/4-77-027b. August 1977.

Method 7D—Determination of Nitrogen Oxide Emissions From Stationary Sources

Alkaline-Permanganate/Ion Chromatographic Method

1. Applicability, Principle, Interferences, Precision, Bias, and Stability

1.1 Applicability. The method is applicable to the determination of NO_x emissions from fossil-fuel fired steam generators, electric utility plants, nitric acid plants, or other sources as specified in the regulations. The lower detectable limit is similar to that for Method 7C. No upper limit has been established; however, when using the recommended sampling conditions, the method has been found to collect NO_x emissions quantitatively up to 1782 $\text{mg NO}_x/\text{m}^3$ -as NO_2 , (932 ppm NO_x).

1.2 Principle. An integrated gas sample is extracted from the stack and collected in alkaline-potassium permanganate solution: NO_x ($\text{NO} + \text{NO}_2$) emissions are oxidized to NO_3^- . Then NO_3^- is analyzed by ion chromatography.

1.3 Interferences. possible interferences are SO_2 and NH_3 . High concentrations of SO_2 could interfere because SO_2 could interfere because SO_2 consumes MnO_4^- (as does NO_x) and, therefore, could reduce the NO_x collection efficiency. However, when sampling emissions from a coal (2.1 percent S) fired electric utility plant, with no control of SO_2 emissions, collection efficiency was not reduced. In fact, calculations show that sampling 3000 ppm SO_2 will reduce the MnO_4^- concentration by only 5 percent if all the SO_2 is consumed in the first impinger.

NH_3 is oxidized to NO_3^- by the absorbing solution. At 100 ppm NH_3 in the gas stream, an interference of 6 ppm NO_x (11 mg NO_x/m^3) was observed when the sample was analyzed 10 days after collection. Therefore, the method may not be applicable to plants using NH_3 injection to control NO_x emissions.

1.4 Precision and Bias. The method does not exhibit any bias relative to Method 7. The within-laboratory relative standard deviation for a single measurement was approximately 6 percent at 200 to 270 ppm NO_x .

1.5 Stability. Collected samples are stable for at least 4 weeks.

2. Apparatus.

2.1 Sampling and Sample Recovery. The sampling train is the same as in Figure 7C-1 of Method 7C. Component parts are the same as in Method 7C, Section 2.1.

2.2 Sample Preparation and Analysis.

2.2.1 Magnetic Stirrer. With 25- by 10-mm Teflon-coated stirring bars.

2.2.2 Filtering Flask. 500-ml capacity with sidearm.

2.2.3 Buchner Funnel. 75-mm ID.

2.2.4 Filter Paper. Whatman GF/C, 7.0-cm diameter.

2.2.5 Stirring Rods.

2.2.6 Volumetric Flask. 250-ml.

2.2.7 Pipettes. Class A.

2.2.8 Erlenmeyer Flasks. 250-ml.

2.2.9 Ion Chromatograph. Equipped with an anion separator column to separate NO_3^- , a H^+ suppressor, and necessary auxiliary equipment. Nonsuppressed and other forms of ion chromatography may also be used provided that adequate resolution of NO_3^- is obtained. The system must also be able to resolve and detect NO_2^- .

3. Reagents

Unless otherwise indicated, all reagents should conform to the

specifications established by the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available; otherwise, use the best available grade.

3.1 Sampling.

3.1.1 Water. Deionized distilled to conform to ASTM specification D 1193-74, Type 3 (incorporated by reference—see § 60.17).

3.1.2 Potassium Permanganate, 4.0% (w/w), Sodium Hydroxide, 2.0% (w/w). Dissolve 40.0 g of KMnO_4 and 20.0 g of NaOH in 940 ml of water.

3.2 Sample Preparation and Analysis.

3.2.1 Hydrogen Peroxide, 5 Percent. Dilute 30 percent H_2O_2 1:5 (v/v) with water.

3.2.2 Blank Solution. Dissolve 2.4 g of KMnO_4 and 1.2 g of NaOH in 96 ml of water.

3.2.3 KNO_3 Standard Solution. Nominal Concentration, 6,200 $\mu\text{g NO}_3^-/\text{ml}$. Dry KNO_3 at 110°C for 2 hours, and cool in a desiccator. Accurately weigh 9 to 10 g of KNO_3 , dissolve in water, and dilute to 1 liter. Calculate the exact NO_3^- concentration from the following relationship:

$$\mu\text{g NO}_3^-/\text{ml} = \text{g of KNO}_3 \times 10^3 \times \frac{62.01}{101.10}$$

This solution is stable for 2 months without preservation under laboratory conditions.

3.2.4 Eluent, 0.003 M $\text{NaHCO}_3/0.0024$ M Na_2CO_3 . Dissolve 1.008 g NaHCO_3 and 1.018 g Na_2CO_3 in water and dilute to 4 liters. Other eluents capable of resolving nitrate ion from sulfate and other species present may be used.

3.2.5 Quality Assurance Audit Samples. This is the same as in Method 7C, Section 3.2.20.

4. Procedure

4.1 Sampling. This is the same as in Method 7C, Section 4.1.

4.2 Sample Recovery. This is the same as in Method 7C, Section 4.2.

4.3 Sample Preparation for Analysis. Note the level of liquid in the sample container, and determine whether any sample was lost during shipment. If a noticeable amount of leakage has occurred, the volume lost can be determined from the difference between initial and final solution levels, and this value can then be used to correct the analytical result. Quantitatively transfer the contents to a 1-liter volumetric flask, and dilute to volume.

Sample preparation can be started as soon as a chromatograph of a prepared sample shows that no NO_2^- is detectable. This step is necessary to insure that all NO_2^- is converted to NO_3^- .

It has been determined that 48 to 60 hours of sample standing after collection is necessary to complete this

conversion. However, the minimum standing time required should be established experimentally. Once established, this time can be used for future samples.

Take a 50-ml aliquot of the sample and blank, and transfer to 250-ml Erlenmeyer flasks. Add a magnetic stirring bar. Adjust the stirring rate to as fast a rate as possible without loss of solution. Add 5 percent H_2O_2 in increments of approximately 5 ml using a 5-ml pipette. When the KMnO_4 color appears to have been removed, allow the precipitate to settle, and examine the supernatant liquid. If the liquid is clear, the H_2O_2 addition is complete. If the KMnO_4 color persists, add more H_2O_2 , with stirring, until the supernatant liquid is clear. (Note: The faster the stirring rate, the less volume of H_2O_2 that will be required to remove the KMnO_4 .) Quantitatively transfer the mixture to a Buchner funnel containing GF/C filter paper, and filter the precipitate. The spout of the Buchner funnel should be equipped with a 13-mm ID by 90-mm long piece of Teflon tubing. This modification minimizes the possibility of aspirating sample solution during filtration. Filter the mixture into a 500-ml filtering flask. Wash the solid material four times with water. When filtration is complete, wash the Teflon tubing, quantitatively transfer the filtrate to a 250-ml volumetric flask, and dilute to volume. The sample and blank are now ready for NO_3^- analysis.

4.4 Sample Analysis. The following chromatographic conditions are recommended: full scale range, 3 μMHO ; sample loop, 0.5 ml; flow rate, 2.5 ml/min. These conditions should give a NO_3^- retention time of approximately 15 minutes (Figure 7D-1).

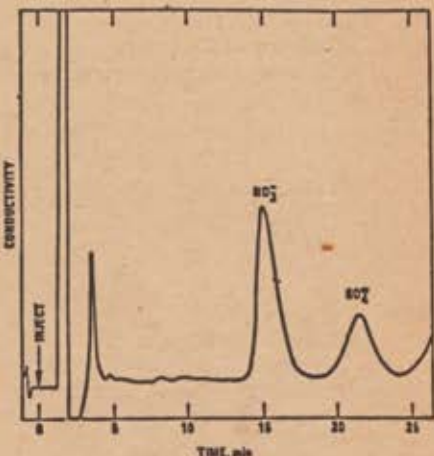


Figure 7D-1. Ion chromatogram of a prepared sample

Establish a stable baseline. Inject a sample of water, and determine if any NO_3^- appears in the chromatogram. If NO_3^- is present, repeat the water load-injection procedure approximately five

times; then re-inject a water sample, and observe the chromatogram. When no NO_3^- is present, the instrument is ready for use. Inject calibration standards, then inject samples and a blank. Repeat the injection of the calibration standards (to compensate for any drift in response of the instrument). Measure the NO_3^- peak height or peak area, and determine the sample concentration from the calibration curve.

4.5 Audit Analysis. This is the same as in Method 7C, Section 4.5.

5. Calibration

5.1 Dry Gas Meter (DGM).

5.1 Initial Calibration. Same as in Method 6, Section 5.1.1. For detailed instructions on carrying out this calibration, it is suggested that Section 3.5.2 of Citation 3 be consulted.

5.1.2 Post-Test Calibration Check. Same as in Method 6, Section 5.1.2.

5.2 Rotameter. Same as in Method 7C, Section 5.2.

5.3 Thermometers for DGM and Barometer. Same as in Method 6, Sections 5.2 and 5.4, respectively.

5.4 Calibration Curve for Ion Chromatograph. Dilute a given volume (1.0 ml or greater) of the nominally 6,200 $\text{Mg NO}_3^-/\text{ml}$ solution to a convenient volume with water, and use this solution to prepare calibration standards. Prepare at least four standards to cover the range of the samples being analyzed. Use pipettes for all additions. Run standards as instructed in Section 4.4.

Determine peak height or area, and plot the individual values versus concentration in Mg_3/ml . Do not force the curve through zero. Draw a smooth curve through the points. The curve should be linear. If the curve is linear, linear regression should be used to determine the calibration equation.

6. Calculations

Carry out calculations, retaining at least one extra decimal figure beyond that of the acquired data. Round off figures after final calculation.

6.1 Sample Volume, Dry Basis, Correct to Standard Conditions. This is the same as in Method 7C, Section 6.1.

6.2 Total Mg_3 Per Sample.

$$m = (S - B) \times 250 \times \frac{1000}{50} \times \frac{46.01}{62.01} \\ = 3710 (S - B) \quad (\text{Eq. 7D-1})$$

Where:

m = Mass of NO_3^- , as NO_3^- , in sample, μg .

S = Analysis of sample, $\text{Mg NO}_3^-/\text{ml}$.

B = Analysis of blank, $\text{Mg NO}_3^-/\text{ml}$.

= 250 = Volume of prepared sample, ml.

1000 = Total volume of KMnO_4 solution, ml.

50 = Aliquot of KMnO_4 solution, ml.

6.3 Sample Concentration.

$$C = K_2 \frac{m}{V_{\text{total}}}$$

Where:

C = Concentration of NO_3^- as NO_3^- , dry basis, mg/dscm .

$K_2 = 10^{-3} \text{ mg/g}$.

6.4 Conversion Factors.

1.0 ppm $\text{NO} = 1.247 \text{ mg NO}/\text{m}^3$ at STP.

1.0 ppm $\text{NO}_2 = 1.912 \text{ mg NO}_2/\text{m}^3$ at STP.

1 $\text{ft}^3 = 2.832 \times 10^{-2} \text{ m}^3$.

7. Quality Control

Quality control procedures are specified in Sections 4.1.3 (flow rate accuracy) and 4.5 (audit analysis accuracy) of Method 7C.

8. Bibliography

1. Margeson, J.H., W. J. Mitchell, J. C. Suggs, and M. R. Midgett. Integrated Sampling and Analysis Methods for Determining NO_x Emissions at Electric Utility Plants. U.S. Environmental Protection Agency, Research Triangle Park, N.C. Journal of the Air Pollution Control Association. 32:1210-1215. 1982.

2. Memorandum and attachment from J. H. Margeson, Source Branch, Quality Assurance Division, Environmental Monitoring Systems Laboratory, to The Record, EPA. March 30, 1983. NH_3 Interference in Methods 7C and 7D.

3. Quality Assurance handbook for Air Pollution Measurement Systems. Volume III—Stationary Source Specific Methods. U.S. Environmental Protection Agency, Research Triangle Park, N.C. Publication No. EPA-600/4-77-027b. August 1977.

* * * * *

[FR Doc. 83-27267 Filed 10-11-83; 8:45 am]
BILLING CODE 6560-50-M

federal register

Wednesday
October 12, 1983

Part III

Environmental Protection Agency

**Control of Air Pollution From Aircraft
and Aircraft Engines; Smoke Emission
Standard**

**ENVIRONMENTAL PROTECTION
AGENCY****40 CFR Part 87****[AMS-FRL-2422-2]****Control of Air Pollution From Aircraft
and Aircraft Engines; Smoke Emission
Standard****AGENCY:** Environmental Protection
Agency.**ACTION:** Final Rule.

SUMMARY: This action stays the January 1, 1984 effective date for EPA's smoke standards, applicable to aircraft gas turbine engines rated below 26.7 kilonewtons (kN) thrust pending completion of rulemaking in response to a petition for reconsideration submitted by the General Aviation Manufacturers Association (GAMA).

DATE: This stay is effective November 14, 1983.

ADDRESS: Material relevant to this action is contained in Public Docket OMSAPC-78-1, located at the Central Docket Section, West Tower Lobby, 401 M Street SW., Washington D.C. 20460. The docket is open to the public and may be inspected between 8 am and 4 pm on week days. A reasonable fee may be charged for copying services.

FOR FURTHER INFORMATION CONTACT: Mr. George D. Kittredge U.S. Environmental Protection Agency Office of Mobile Sources (ANR-455) 401 M Street SW., Washington D.C. 20460 telephone (202)-382-4981.

SUPPLEMENTARY INFORMATION:**I. Background**

On December 30, 1982, EPA amended smoke and other emission standards applicable to aircraft engines (47 FR 58462). The rule included an effective date of January 1, 1984 for smoke standards applicable to aircraft gas turbine engines. On March 17, 1983, GAMA submitted a petition to EPA requesting reconsideration or revision of the amended smoke standard, alleging

that EPA did not consider GAMA's comments during the rulemaking process and that the revised standard is inequitable as applied to small engines. On July 18, 1983, EPA proposed a stay in the January 1, 1984 effective date for small engines affected by the smoke standard, to allow time for careful evaluation of the GAMA petition (48 FR 32745).

Only two comments were received on the NPRM, from the Aircraft Owners and Pilots Association and the Garrett Turbine Engine Company. Both recommended that the stay be finalized as proposed and that the GAMA petition be granted. Garrett also provided comments bearing on the merits of the GAMA petition, which will be considered in a later rulemaking action.

II. Discussion of Issues

There is no significant environmental impact attributable to this rulemaking action, since only one engine model is likely to be affected. The economic impact could be favorable to the manufacturer of that particular engine model, since it would be relieved of the obligation to attempt to meet the present effective date for the standard (January 1, 1984).

As stated in the NPRM, the stay will give EPA the opportunity to coordinate the review of the arguments advanced in the GAMA petition with the International Civil Aviation Organization (ICAO), whose smoke standard was adopted by EPA in the December 31, 1982 rulemaking in the interests of international harmonization. Notwithstanding the desirability for international coordination, EPA intends to proceed expeditiously with the evaluation of the GAMA petition, with the goal of completing any amended rulemaking early in 1984.

III. Regulatory Analysis

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirements for a regulatory analysis.

This rulemaking is not major because it will not result in adverse effects on the economy greater than \$100 million. There are no discernible effects on competition, productivity, investment, employment or innovation. For these reasons, EPA has not prepared a formal Regulatory Impact Analysis.

This rulemaking action has been sent to the Office of Management and Budget (OMB) for review pursuant to Executive Order 12291. Any comments from OMB and any EPA response thereto are in the Public Docket for this rulemaking.

IV. Impacts on Reporting Requirements

There are no reporting requirements directly associated with this rulemaking action.

VI. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 601 et seq., EPA is required to determine when a regulation will have a significant effect on a substantial number of small entities so as to require a regulatory flexibility analysis. Because of the limited classes of engines to which the proposal applies, no small entities (as defined by the Small Business Act) will be affected. Therefore, no Regulatory Flexibility Analysis has been prepared.

List of Subjects in 40 CFR Part 87

Air pollution control, Aircraft.

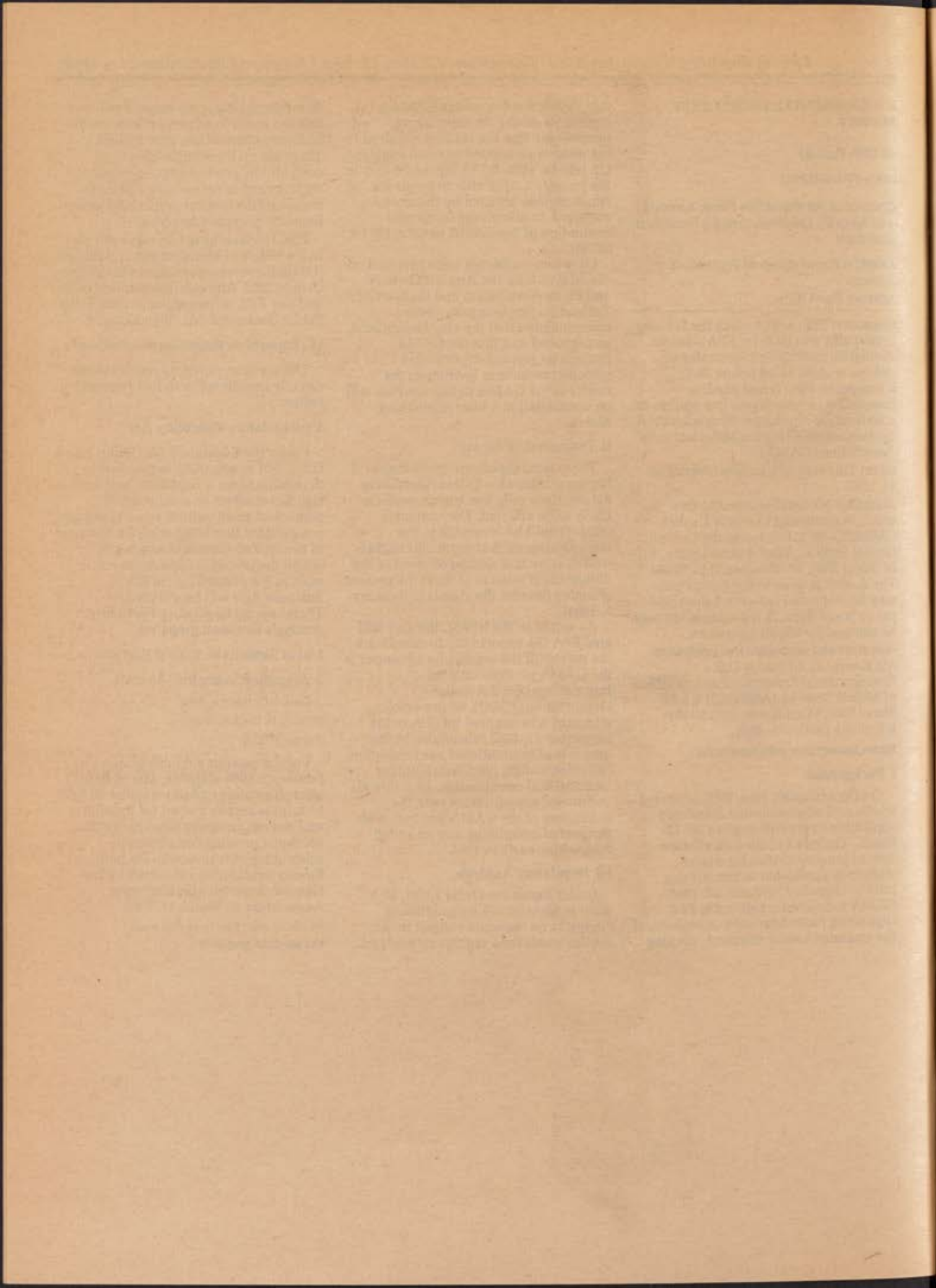
Dated: October 4, 1983.

William D. Ruckelshaus,
Administrator.

For the reasons set forth above, the January 1, 1984 effective date of the aircraft smoke regulations under 40 CFR 87.21(e) is hereby stayed for turbojet and turbofan engines rated below 26.7 kN thrust pending completion of rulemaking in response to the petition for reconsideration submitted by the General Aviation Manufacturers Association on March 17, 1983

[FR Doc. 83-27601 Filed 10-11-83; 8:45 am]

BILLING CODE 6550-50-M



Federal Register

Wednesday
October 12, 1983

Part IV

Department of Justice

Attorney General's Task Force on Family
Violence; Public Hearings

October 11, 1911

Part IV

Department of
Justice

Attorney General, John L. Quinn
and Mr. John L. Quinn

DEPARTMENT OF JUSTICE**Attorney General's Task Force on Family Violence; Public Hearings****Summary**

Notice is hereby given that the Attorney General's Task Force on Family Violence will hold six public hearings on the issue of family violence. The Task Force, which was announced by the Attorney General on September 19, 1983, consists of nine members from the public and private sector covering a wide range of expertise in fields related to law enforcement and family violence.

The Task Force will function solely as an advisory body in full compliance with the provisions of the Federal Advisory Committee Act.

The Task Force will make recommendations to the Attorney General for addressing the national problem of violence within the family. Specifically, the Task Force will examine the issues and develop recommendations in the following areas: The nature of violence within the family and the responses to it; violence and molestation against children, spouse abuse, and mistreatment of the elderly; national, state, and local efforts, whether based in a government agency or in the private sector to address the problem of family violence; the integration of government and community resources to assist these victims; and appropriate roles for the Department of Justice, and other Federal agencies, in addressing family violence

and improving the response to and the treatment of its victims.

Oral and written testimony will be solicited from the public. The testimony will be used as a basis for making recommendations to the Attorney General.

Location/Dates

Public hearings will be held at the following sites: New York, New York, December 1-2; Detroit, Michigan, December 14-15; Kansas City, Missouri, January 12-13; Seattle, Washington, January 19-20; San Antonio, Texas, February 1-2; Sacramento, California, February 15-16-17. An announcement regarding the specific time and location of the hearings will be made in a subsequent **Federal Register** announcement.

Procedure

The Task Force on Family Violence invites all interested parties to submit written testimony or program information regarding any, or all, aspects of family violence. Persons interested in submitting written testimony should forward it to: The Attorney General's Task Force on Family Violence, 633 Indiana Avenue, NW., Washington, D.C. 20531. If possible, all written testimony should be typed double spaced and submitted in duplicate. Persons interested in providing oral testimony at a hearing should notify: The Attorney General's Task Force on Family Violence, 633 Indiana Ave., NW., Washington, D.C.

20531, as soon as possible and in no event not later than 14 days prior to the date of the relevant hearing. The Task Force on Family Violence will make the final determinations as to what persons/organizations will make oral presentations.

Conduct of Hearings

Chief William Hart, Chairman of the Task Force on Family Violence, or his designee, will preside at the hearings. The other members of the Task Force will join Mr. Hart. This will not be a judicial or evidentiary-type hearing and there will not be any cross examination. However, clarifying questions or discussion may follow each presentation.

Any further procedural rules needed for the proper conduct of the hearings will be announced by the presiding official.

A transcript of the hearings will be made. The entire record of the hearings, including transcript, will be retained by the Task Force on Family Violence, and will be available to the public. Any person may purchase a copy of the transcript from the reporter.

For further information Contact: Attorney General's Task Force on Family Violence, 633 Indiana Avenue, NW., Washington, D.C. 20531.

Marise Rene Duff,

Executive Director, Attorney General's Task Force on Family Violence.

[FR Doc. 83-27801 Filed 10-11-83; 8:45 am]

BILLING CODE 4410-18-M